

Amendment to the Claims

Please cancel claims 18-34 and 40-50 without prejudice to pursuing these claims in a continuation, divisional, continuation-in-part or other application. Please withdraw claims 10-17 and 35-39 without prejudice to consideration of these claims upon allowance of a generic claim. Following is a complete listing of claims, as amended:

1. (Original) An apparatus for carrying an unmanned aircraft, comprising:
a support;
a launch carriage movably carried by the support;
a gripper movably coupled to the launch carriage, the gripper including at least one grip portion positioned to releasably engage an unmanned aircraft, the gripper being movable relative to the launch carriage between a first position with the at least one grip portion positioned to contact the aircraft and a second position with the at least one grip portion positioned to be out of contact with the aircraft; and
a brake positioned at least proximate to the gripper, the brake being changeable from a first configuration in which the brake inhibits motion of the gripper by a first amount, and a second configuration in which the brake does not inhibit motion of the gripper, or inhibits motion of the gripper by a second amount less than the first amount.

2. (Original) The apparatus of claim 1 wherein the brake includes a first brake member and a second brake member, with at least one of the brake members being movable relative to the other.

3. (Original) The apparatus of claim 1 wherein the brake includes a first brake member coupled to the carriage and a second brake member coupled to the at least one grip portion, and wherein the second brake member is rotatable about an axis and translatable along the axis between a first position relative to the first brake member and a second position relative to the first brake member.

4. (Original) The apparatus of claim 1 wherein the gripper includes at least one grip portion positioned to releasably engage a fuselage of the aircraft, the gripper being movable relative to the launch carriage between a first position with the at least one grip portion positioned to contact the fuselage and a second position with the at least one grip portion positioned to be out of contact with the fuselage.

5. (Original) The apparatus of claim 1 wherein the gripper includes two gripper arms pivotally coupled to the launch carriage, the individual gripper arms including at least one grip portion positioned to releasably engage the fuselage of the aircraft.

6. (Original) The apparatus of claim 1 wherein the gripper is movable between the first and second position when the launch carriage decelerates relative to the support.

7. (Original) The apparatus of claim 1 wherein:
the launch carriage is movable relative to the support along a launch axis; and
the gripper is pivotable relative to the launch carriage about a pivot axis offset from the launch axis to pivot downwardly and outwardly away from the launch axis as the gripper moves from the first position to the second position, and wherein at least a portion of the mass of the gripper is eccentrically offset from the pivot axis to swing the gripper from the first position to the second position as the carriage decelerates.

8. (Original) The apparatus of claim 1, further comprising the aircraft.

9. (Original) The apparatus of claim 1 wherein the support includes a launch guide structure having a launch axis, and wherein the launch carriage is movable relative to the support along the launch axis.

10. (Withdrawn) An apparatus for carrying an unmanned aircraft, comprising:
a support;
a launch carriage movably carried by the support;
a gripper movably coupled to the launch carriage, the gripper including at least one grip portion positioned to releasably engage an unmanned aircraft, the gripper being movable relative to the launch carriage between a first gripper position with the at least one grip portion positioned to contact the aircraft and a second gripper position with the at least one grip portion positioned to be out of contact with the aircraft; and
a gripper brake positioned proximate to the gripper, the gripper brake including a first brake portion carried by the launch carriage and a second brake portion carried by the gripper, the second brake portion being movable relative to the first brake portion between a first brake position and a second brake position, with the second brake portion in contact with the first brake portion and applying a first force to the first brake portion when in the first position, and with the second brake portion out of contact with the first brake portion or applying a second force less than the first force when in the second position.
11. (Withdrawn) The system of claim 10 wherein the first brake portion is configured to rotate about an axis and translate along the axis between the first and second positions.
12. (Withdrawn) The system of claim 10 wherein the first brake portion is coupled to a first threaded member and the second brake portion is coupled to a second threaded member that is threadably engaged with the first threaded member.
13. (Withdrawn) The system of claim 10 wherein the first brake portion is coupled to a first threaded member and the second brake portion is coupled to a second threaded member that is threadably engaged with the first threaded member,

and wherein the second threaded member is movable relative to the gripper to adjust an axial separation between the first and second brake portions.

14. (Withdrawn) An apparatus for carrying an unmanned aircraft, comprising:
carriage means for carrying an unmanned aircraft during launch;
support means for supporting and guiding the carriage means along a launch axis during takeoff;
gripper means for releasably carrying an unmanned aircraft, the gripper means being movable relative to the carriage means between a first position with the gripper means positioned to contact the aircraft and a second position with the gripper means positioned to be out of contact with the aircraft;
and
brake means for at least impeding motion of the gripper means relative to the carriage means.

15. (Withdrawn) The apparatus of claim 14 wherein the brake means includes a first brake portion and a second brake portion, the second brake portion be rotatable about an axis relative to the first brake portion and movable along the axis toward and away from the first brake portion as it rotates.

16. (Withdrawn) The apparatus of claim 14 wherein the gripper means includes a gripper having at least one gripper arm pivotally coupled to the launch carriage, the at least one gripper arm carrying the at least one grip portion positioned to releasably engage the fuselage of the aircraft.

17. (Withdrawn) The apparatus of claim 14 wherein the gripper means is pivotable relative to the carriage means about a pivot axis offset from the launch axis to pivot downwardly and outwardly away from the launch axis as the gripper means moves from the first position to the second position, and wherein at least a portion of the mass of the gripper means is eccentrically offset from the pivot axis to swing the gripper means from the first position to the second position as the carriage means decelerates.

18-34. (Cancelled)

35. (Withdrawn) An apparatus for launching an unmanned aircraft, comprising:

- a first launch member;

- a second launch member positioned at least proximate to the first launch member;

- a launch carriage having a first portion in contact with the first launch member and a second portion in contact with the second launch member, the launch carriage being movable relative to the launch members between a first launch carriage location and a second launch carriage location as at least one of the carriage portions moves relative to the other;

- a gripper movably coupled to the launch carriage, the gripper including at least one grip portion positioned to releasably engage an unmanned aircraft, the gripper being movable relative to the launch carriage between a first position with the at least one grip portion positioned to contact the aircraft and a second position with the at least one grip portion positioned to be out of contact with the aircraft; and

- a gripper brake positioned at least proximate to the gripper, the gripper brake being changeable from a first configuration in which the gripper brake inhibits motion of the gripper by a first amount, and a second configuration in which the gripper brake does not inhibit motion of the gripper, or inhibits motion of the gripper by a second amount less than the first amount.

36. (Withdrawn) The apparatus of claim 35 wherein at least a portion of the first launch member is non-parallel to at least a portion of the second launch member.

37. (Withdrawn) The apparatus of claim 35, further comprising an actuator operatively coupled to the launch carriage to move the at least one carriage portion relative to the other.

38. (Withdrawn) The apparatus of claim 35, further comprising an actuator operatively coupled to the launch carriage to move the at least one carriage portion relative to the other, and wherein the actuator is carried by the launch carriage.

39. (Withdrawn) The apparatus of claim 35, further comprising an actuator operatively coupled to the launch carriage to move the at least one carriage portion relative to the other, and wherein the actuator is not carried by the launch carriage.

40-50. (Cancelled)